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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/805,188	03/14/2001	Hiroshi Morioka	501.30598CC3	2601

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EXAMINER

NGUYEN, TU T

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 09/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/805,188

Applicant(s)

MORIOKA ET AL.

Examiner

Tu T. Nguyen

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/535,577.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Detailed Office Action

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamoshida (4,571,685) in view of Koizumi et al (4,614,427).

With respect to claim 1, Kamoshida discloses a processing method for semiconductor devices in a semiconductor fabrication line, comprising the steps of: processing a substrate in a first processing apparatus (abstract), transferring the substrate processed in the first processing apparatus to a detecting apparatus without removal of the substrate from the semiconductor fabrication line while continuing fabrication of the semiconductor devices 79 (fig 9).

Kamoshida discloses a detecting apparatus. However, Kamoshida does not explicitly disclose a particle detecting apparatus. Koizumi discloses a system for detecting a foreign particles (columns 1-2). The system comprises: a detecting apparatus 35 (fig 3) and a particle detecting processing apparatus 61-62 (fig 3) which is separated from the detecting apparatus (fig 3), sending a detected signal to the particle detecting process apparatus (column 5, lines 30-40). It would have been obvious to modify Kamoshida with Koizumi's particle detecting

apparatus to increase yield as taught by Kamoshida in column 1, lines 35-42. Kamoshida discloses a CPU 100 (fig 9) for storing and transferring the data between the systems (column 4, lines 30-40). It would have been obvious to modify Kamoshida's computer system for storing the amount of the foreign particle defects for utilizing the testing.

With respect to claims 2,5,23, since Koizumi discloses focusing an incident light in a spot on a wafer (column 3, lines 12-15), Koizumi inherently discloses detection is performed in a predetermined area of the substrate.

With respect to claim 3, Kamoshida does not explicitly disclose a processing time. However, the skill artisan would have been motivated to have a completed detecting step within a processing time in the processing step to be ready for transferring the information to the next step.

With respect to claims 4,26, refer to discussion in claim 1 above. Further, Kamoshida discloses controlling the processing step based on the information on the finishing product (column 4, lines 30-40). It would have been obvious to modify Kamoshida to control the operation of the semiconductor fabrication line in accordance with the data of foreign particle defects to increase the yield.

With respect to claim 6, refer to discussion in claim 1 above for detecting the particle defects. Further, Koizumi does not disclose counting the defects. Counting the defects on the

wafer would have been known. It would have been obvious a design choice to modify Kamoshida's system to count the defects to give more detail about the condition of the wafer.

With respect to claim 7, refer to discussion in claim 1 for storing the data in the memory.

With respect to claim 8, refer to discussion in claim 1 above for detecting foreign particle. Further Kamoshida's detecting apparatus performs in a real time (columns 2-3).

With respect to claim 9, Since Koizumi discloses using a detector for detecting the particle, Koizumi inherently discloses the claimed invention.

With respect to claim 10, refer to discussion in claim 1.

With respect to claim 11, the skill artisan would have been motivated to modify Koizumi's system to output the signal indicating the condition of the wafer as claimed. The modification involves only routine skill in the art.

With respect to claims 12,17,22, refer to discussion in claim 1. Further, Koizumi discloses using a filter (column 1, lines 30-65) to cut a light reflected from a pattern formed on the substrate.

With respect to claim 13, refer to discussion in claim 1 above.

With respect to claims 14,19, Koizumi inherently discloses the claimed limitation.

With respect to claims 15-16,18,20-21, refer to discussion in claim 1.

With respect to claim 24, Koizumi does not explicitly disclose a linear image sensor. However, a linear image sensor would have been known. It would have been obvious to modify Koizumi with the known linear sensor to utilize the detection.

With respect to claim 25, Kamoshida does not explicitly disclose the first apparatus is an etching apparatus. However, it would have been obvious a design choice to have Kamoshida's first process as an etching apparatus.

With respect to claim 27, Koizumi does not explicitly disclose obtaining information of distribution of foreign particle defects. However, it would have been a design choice to modify Koizumi to manipulate the detected data for different purposes. The modification involves only routine skill in the art. Further, refer to discussion in claim 8 for the real time.

Response to Arguments

Applicant's arguments filed on 06/13/2003 have been fully considered but they are not persuasive.

With respect to Applicant's argument on page 8, Koizumi does disclose a detecting apparatus 35 (fig 3) which is separated from the particle detecting processing apparatus 62 (fig 3).

In response to applicant's argument on page 8 that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., provide information in the form of processed foreign particle defect data) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Koizumi discloses sending a detected signal to the particle processing apparatus (column 5, lines 30-40) and Kamoshida discloses sending signals between the manufacturing apparatus (column 2, lines 35-45).

Koizumi also discloses a cut filter. Refer to discussion in claim 12 for the cut filter.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory

period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T Nguyen whose telephone number is (703) 306-9185. The examiner can normally be reached on M-T 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (703) 308-4881. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Tu T. Nguyen
Primary Examiner
Group Art Unit 2877

9/21/03